

**REMARKS**

The Examiner has rejected claims 1, 4, 6-26 and 28 under 35 U.S.C. §103(a) as being unpatentable over Parulski et al. (WO 94/14274).in view of Virtuoso et al. (U.S. 5,594,952). This rejection is respectfully disagreed with, and is traversed below.

Parulski discloses a device for data processing which is a small-sized portable and hand-held work station comprising: a data processing unit, a display, a user interface (keyboard), at least one memory unit, a power source and application software. The device also has an external camera unit that includes a camera and optics. The Examiner states that "at least a portion of the camera is located within the housing of the device" and "a portion of the camera is integrated in a circuit card (PCMCIA card) that is electrically coupled to the card slot of the device".

Firstly, it is argued that the camera unit of Parulski et al. appears to be entirely separate from the work station part of the device, and there is no evidence that electronic components of the camera circuit are distributed between the workstation and the camera unit.

It is also argued that the camera unit disclosed by Parulski et al. is not actually integrated into a PCMCIA card, as stated by the Examiner. Actually, the camera unit does not have the dimensions of a standard PCMCIA card. This can be clearly seen by comparing Figures 2a and 2b of Parulski et al. with Figure 1. What the technical description of Parulski et al. actually discloses is a miniature camera unit with a mechanical adapter and necessary electronic interconnections and circuitry to allow it function in accordance with the PCMCIA standard. It does not disclose a camera that is built into or

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integrated within a standard PCMCIA card. Evidence for this assertion can be found in Parulski et al. in at least the following places: (A) page 4, lines 24-27 "By further defining the interfacing means to include a mechanical adapter that physically interconnects the camera to a card slot on a portable computer"; (B) page 6, lines 4-20; (C) page 9, lines 1-4 "The camera 20 is thus connected into the PCMCIA memory card slot 16 of the portable computer 10 by means of an extender board 24 that matches the PCMCIA card dimensions" (emphasis added).

In contrast, a preferred embodiment of the camera unit disclosed in the instant patent application is incorporated into a PCMCIA card of standard dimensions, as is stated on page 6, lines 22 and 23 i.e., "...in which camera arrangement 140 and peripheral circuits required by it are integrated in the standard card". I can thus be argued that the camera card described in the instant patent application is novel over that described by Parulski et al. at least for the reason that its implementation requires the solution of a number of technical problems relating to the miniaturization of the optical and electronic parts of the camera.

Significantly, the Examiner admits that Parulski et al. do not disclose means for transmitting image information processed by the data processing unit, but states that the claimed limitation "is very well-known in the telecommunication art as evidenced by Virtuoso".

Virtuoso discloses a PCMCIA card that has an RF section for transmitting and receiving data and voice information, and the Examiner states that it would be obvious to one of ordinary skill in the art to modify the PCMCIA card of Parulski et al. to include an RF section, as taught by Virtuoso et al., in order to transmit and receive data and voice information.

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It is first noted that the instant claims do not specifically require that the means for transmitting be located in the camera unit, per se, as, by example, claim 1 states in part that "said device further comprises means for transmitting image information processed by said processing unit", and claim 8 recites in part that the circuit card "which can be fitted to a card slot of a device for personal communication, data collection and data processing", and that the device includes "means for processing image information output by said camera unit (14) and means for transmitting image information processed by said processing means." As can be seen from Fig. 3 of the instant patent application, the RF transceiver (e.g., cellular mobile telephone and modem 17) may be an integral part of the personal communications device. This is also disclosed in the description at page 5, lines 22-25.

For at least this reason, it is argued that the teachings of Virtuoso et al. cannot be combined with those of Parulski et al. to make unpatentable the personal communications device and other aspects that are claimed in this patent application.

With reference to claim 6, the Examiner states that Parulski et al. and Virtuoso et al. do not describe a device having a replaceable keyboard. However, the Examiner goes on to state that replaceable keyboards are notoriously well-known in the art, and for this reason the possibility of such a keyboard would be obvious to someone with ordinary skill in the art.

Again, the Examiner's assertion is respectfully disagreed with. A removable or replaceable keyboard of the kind described in the instant application provides a novel solution in at least the way by which it is connected to the main unit. The keyboard described in this application is not simply connected to the main unit by a conventional

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plug, but instead incorporates an edge-type connector running along the length of its rear edge. This mates with a connector of opposite polarity on the main unit, mounted underneath the display and hinged in such a way that it allows the keyboard to be rotated through at least 90 degrees (see the instant patent application at page 11, lines 8-20). Thus, when not in use the keyboard may be folded up to cover the display of the device, forming a very compact unit. This solution would not be obvious for someone with a general knowledge of previously implemented replaceable keyboards. Furthermore, an ability to detach the keyboard and replace it with another type of input device altogether, such as the digitizer pad (see page 11, lines 20-25) is certainly not suggested by Parulski et al. or Virtuoso et al., or any "notoriously well known" prior art. Claim 6 has been amended to even further highlight these inventive aspects of the invention.

The Examiner further admits, with regard to claim 7, that neither Parulski et al. or Virtuoso et al. show the camera and computer communicating via infrared links, but states that possibility this would have been obvious to someone with ordinary skill in the art. Here, again, it would appear that there is some misunderstanding. The instant patent application certainly does suggest that the personal communications device may include an infrared link (see page 14, lines 12-18), but is disclosed as a means for transferring information between the personal communications device and, e.g. another computer, not necessarily the camera card.

With reference to claim 20, the Examiner states that Parulski et al. disclose a means for performing character recognition of characters in an image recorded by the camera unit, and refers to page 12, lines 5-27. In fact, this section of Parulski et al. does not disclose character recognition. It instead discusses the operation of the

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camera and selection of camera modes, whether an image is taken in color or monochrome, what resolution the image has, how and where it is stored, and whether the image is compressed. Claim 20 of the instant patent application refers to the use of optical character recognition software, for example, to convert images of writing obtained with the camera unit into ASCII text, or to convert images of hand-drawn geometrical shapes into regular shapes (see generally pages 8 and 9 of the instant patent application). Parulski et al. does not disclose these functions.

Reference may be had, by example, to Schlack et al., U.S. 5,392,447, at col. 8, lines 22-53, and col. 12, lines 16-46, which was previously cited by the Examiner but not applied.

The Examiner also refers to page 12, lines 5-27 of Parulski et al. with reference to claim 21, stating that in this section Parulski et al. disclose a display means and a means for modifying an image appearing on the display.

This characterization of Parulski et al. is incorrect. As was stated above page 12, lines 5-27 of Parulski et al. describes the control and operation of the camera, as well as issues relating to the type of image which is recorded and the way in which it is recorded and stored. There is no mention of "modifying" the image, neither is there disclosure of a display means on which the image can be modified. In the context of the instant patent application, modification of the image refers to editing, the possible extraction of particular text fields when scanning business cards, and converting hand-drawn figures to regular shapes. Again, pages 8 and 9 of the instant patent application describes these various functions in detail.

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Claim 24 relates to a digitizer pad coupled to the processing means of the personal communications device. The Examiner states that although this particular feature is not specifically shown by the combination of Parulski et al. and Virtuoso et al., it would in any case be obvious to someone of ordinary skill in the art.

In order to even further distinguish this aspect of the invention, claim 24 has been amended to recite that the digitizer pad is "removably coupled" to the processing means "such that it can be replaced with another type of manual input device." Claim 24, particularly as now presented, is clearly patentable over the combination of Parulski et al. and Virtuoso et al.

Turning now to the rejections of rejection of dependent claim 27 based on the combination of Parulski et al., Virtuoso et al., and Simpson et al. (U.S. 5,404,580), making a statement that it would have been obvious to have a "portable notebook transmit a SMS message including a portion of the image in order to provide a user of a portable device with a photograph of the advertised product". The Examiners rationale for rejecting claim 27 is not clear.

Claim 27 refers to the use of SMS messages to transmit information from the personal communications device, and more particularly to "means for transmitting a Short Message Service (SMS) message including at least a portion of an image processed by said processing means."

The Examiner argues that although the combination of Parulski and Virtuoso does not anticipate the use of SMS messages for this purpose, the teachings of Simpson et al. suggest the use of SMS messages including images, particularly for advertising.

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Simpson et al. simply describe two types of SMS message, a "point-to-point" type for personal communication between two users and a "broadcast" type, which could be used for unsolicited transmission of information, such as advertising material. Conventionally the SMS service is a fully text-based messaging service, and there is no indication in the teachings of Simpson et al. that the broadcast SMS messages envisaged are anything more than text messages. There is certainly no suggestion in a combination of these three references of the subject matter of claim 27, or of transmitting images for advertising purposes using SMS, as stated by the Examiner. The Examiner's rejection appears to be an impermissible hindsight rejection based on the teachings of the applicants themselves.

The Examiner also rejected claims 1, 4-26 and 28 under 35 U.S.C. §103(a) as being unpatentable over the combination of Paajanen et al. (U.S. 5,189,632) and Parulski et al.

Paajanen et al. disclose a portable personal computer and a mobile telephone device integrated into one and the same body structure. The device has a display, a keyboard for operating the computer and the mobile telephone, a data processing unit, a speaker, a microphone, at least one memory unit, a power source, application software and means for transmitting and receiving data and voice information. Paajanen does not show a PCMCIA slot and does not suggest that the device can be used in conjunction with a camera unit. However, the Examiner states that this possibility is disclosed by Parulski et al., which describes a portable notebook type computer with a PCMCIA slot and a camera unit that can be electrically coupled to it.

It is argued that the Examiner's proposed combination of these two references does not directly lead to the device described and claimed in the instant patent application.

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The thrust of the teachings of Paajanen et al. relates to the body structure of the mobile telephone/personal notepad computer (col. 3, lines 5-6), and thus the patent as a whole gives no specific indication of the device's functionality. It is left to the reader to interpret what that may be. Similarly, Parulski et al. concentrate on the design and functionality of the camera card itself. Very little information is given about the personal notepad computer, apart from its essential constituent parts, and there is no mention of any image processing applications per se.

It is thus argued that any combination of these two references would still not render the instant claims unpatentable. For example, and referring to Claim 1, it is not seen where there would be any disclosure of a device wherein:

"said data processing unit (2) processes image information output by said camera unit (14), and wherein said device further comprises means for transmitting image information processed by said processing unit (2)."

It should also be noted that the OCR function described in the instant patent application can be located in the camera unit 14 itself. This is significant, because although Parulski et al. disclose that the camera card may contain means for running a computer program (the LUT 62), the functions disclosed are simply related to basic imaging, e.g. obtaining full resolution images and color correction. The OCR function incorporated into the camera card described in the instant patent application is a higher level function, operating on an image which has, for example, already undergone the basic functions described by Parulski et al., in order to identify specific elements of the image e.g., written characters and/or shapes. Thus it can be argued that the functionality of the camera card, as described in the instant patent application, is in itself

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inventive.

It should also be emphasized that the instant patent application discloses data gathering and processing functions which are not presented by either Parulski et al. or Paajanen et al., wherein a number of complex data/image processing tasks can be performed by the main processor of the portable communications device. Thus, the potential data gathering capabilities of the camera unit are enhanced and fully integrated with other, more conventional functions of the notepad computer.

It should also be noted that Paajanen et al. do not describe the location of the PC part and the mobile telephone inside the structure of the personal notepad computer/mobile telephone (col. 3, lines 6-12), nor the relationship between the two. At the same time, Parulski et al. do not disclose the possibility of using a radiotelephone section to transmit data acquired by the computer from the camera unit via the PCMCIA interface. Thus, it is argued that there is no suggestion in any combination of Paajanen et al. and Parulski et al. of these aspects of the claimed invention.

The remainder of the Examiner's arguments (those concerning claims 6 and upward) follow the same pattern as the rejections raised in view of Parulski et al. and Virtuoso et al., and these the Examiner's arguments regarding the use of IR links, replaceable keyboards, etc., as well as the SMS feature of Claim 27 (when also using Simpson et al.) are traversed for the same reasons given previously.

In any event, and to even further distinguish the claimed invention from the various references that were cited and applied by the Examiner, each of the independent claims has been amended to state that the means or step of transmitting image information transmits same "to another

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location using a radio frequency channel". This clarifying amendment thus serves to even further distinguish the claimed invention from the prior art, and the Examiner is respectfully requested to reconsider and remove all of the rejections.

As a part of this response claims 29-32 have been newly added, and are deemed to be patentable over the cited prior art for at least the reasons argued above. Independent claim 29 is drawn to a portable computer device that includes a data processor coupled to a memory and an electronic camera unit that is detachably coupled to the data processor through a plug-in interface. The plug-in electronic camera unit comprises a solid state camera, a second data processor and a second memory, and the second data processor is


"operable for performing at least a character recognition task on an image obtained by said solid state camera unit to generate a set of recognized characters".

The portable computer device is further claimed to comprise:

"a radio transceiver unit coupled to said data processor for transmitting data to a remote receiver through a radio frequency channel, said transmitted data comprising at least one of processed image data obtained from said electronic camera unit or at least a portion of said set of recognized characters."

Claim 29 should be found to be clearly patentable over the prior art that was cited and relied on by the Examiner.

Claim 30 is drawn to the display, while claims 31 and 32 are drawn to novel aspects of the interface to the manual user input devices, in particular the replaceable manual input devices such as the keyboard/digitizer pad.



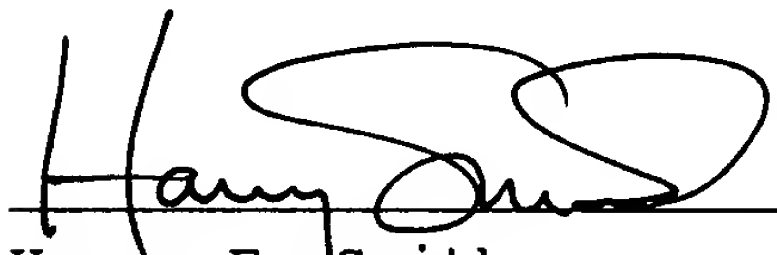
Serial No. 08/807,322  
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A favorable consideration that also results in the allowance of claims 29-32 is earnestly solicited.

All of the claims of this patent application are deemed to be in condition for allowance, and this patent application is further believed to be ready to be passed to issue. However, should there be any remaining issue that would impede the allowance of all of the pending claims, the Examiner is respectfully invited to contact the undersigned at any of the numbers appearing below.

Respectfully submitted,

  
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